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EXAMINER

GEORGEWILL, OPIRIBO

ART UNIT

PAPER NUMBER

2617

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

epatent@usiplaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/690,552	<b>Applicant(s)</b> YOON ET AL.	
	<b>Examiner</b> OPIRIBO GEORGEWILL	<b>Art Unit</b> 2617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 June 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The declaration filed on 6/29/10 under 37 CFR 1.131 has been considered but is ineffective to overcome the Schrader et al (US Pub No. 20050243765 A1) reference.
2. The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the Schrader et al (US Pub No 20050243765 A1) reference to either a constructive reduction to practice or an actual reduction to practice. The declaration has not shown any dates supporting diligence after the date of reduction to practice of Schrader to the constructive reduction to practice.

### ***Response to Arguments***

3. Applicant's arguments, see page 3, filed 6/29/10, with respect to the rejection(s) of claim(s) 1 under USC sect 102 (e) has been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Rune where Rune teaches the merging of communication units.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1 – 3, 8 – 10, 13, 16, 19, 20, 25 – 27, 30, 33, 36 - 38 are rejected under 35 U.S.C. 102( b) as being anticipated by Rune et al., US Pub No. 20010029166 A1**

Re claim 1, Rune discloses in a communication network having a plurality of communication units, a communication unit that transmits messages and receives messages from a neighboring communication unit (abstract), the communication unit comprises:

a transmitter to transmit an outgoing message to a neighboring communication unit (paragraph [21])

a receiver to receive an incoming message from the neighboring communication unit (paragraph [21])

a storage unit (paragraph [127], such information can then be used (implies storage) to store communication unit connectivity information (paragraph [127], clock value (clearly information needed when another node wants to connect to this node). Furthermore see paragraph [110], BD\_ADDR which is know and

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expected to stored on all Bluetooth devices), neighboring communication unit connectivity information (paragraph [127], addresses of other units in the ad hoc network; paragraph [95], BD\_ADDR) and merge request information (paragraph [69], will want to connect to the paging unit (implies merge request))

a processor to control said transmission of outgoing and reception of incoming messages (fig 3 discloses a processor based system and it is known and expected that the processes are controlled by a processor)

a merge module to examine said stored communication unit connectivity information, stored neighboring communication unit connectivity information and stored merge request information to determine merge control parameter to control merge between the communication unit and a neighboring communication network (paragraph [127], Such received information can then be used when the unit decided how to join them (merge module examines))

a controller module to control merge merging of the communication unit with said neighboring communication network in accordance with said merge control parameters (paragraph [127])

The rejection of claim 1 is incorporated herein. Claims 2, 3, 8, 9 depend on claim 1 and only further limitations will be addressed below.

Re claim **2**, Rune discloses that the transmitter transmits said outgoing message in the form of radio signals (paragraph [21], Bluetooth)

Re claim **3**, Rune disclose that the receiver receives said incoming message in the form of radio signals (paragraph [21], Bluetooth)

Re claim **8**, Rune discloses a that the storage module further comprises a connectivity module to store at least one of an identifier for a communication network to which the communication unit belongs, an identifier for a neighboring communication unit, an identifier for a communication network to which a neighboring communication unit belongs, and an identifier for a neighboring communication unit's neighbor (paragraph [127]).

Re claim **9**, Rune discloses that said processor further includes a search module to determine search parameters that control the manner in which the communication unit searches for neighboring communication units and neighboring communication network nodes (paragraph [21]), wherein the controller module further controls transmission of outgoing messages and reception of incoming messages in a manner consistent with search parameters determined by the search module (paragraph [21])

The rejection of claim 9 is incorporated herein. Claims 10, 13 depend on claim 9 and only further limitations will be addressed below.

Re claim **10**, Rune discloses a transmit rate module to determine a rate at which the communication unit transmits outgoing messages containing network connectivity information (paragraph [21], repeatedly transmitted according to specified timing)

Re claim **13**, Rune discloses that the search module further includes a scan window module to determine a scan window interval during which the communication unit receives network connectivity messages and scan window

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delay module to determine a delay between scan window intervals (paragraph [21], repeatedly transmitting according to well specified timing and frequency sequence and listen for response)

Re claim **16**, Rune discloses that the merge module further includes a merge priority module to determine a merge priority for each neighboring communication network in response to the communication unit controlling said merging, wherein the merge priority controls the priority in which the communication unit allows the communication network to which the communication unit belongs to merge with neighboring communication networks (paragraph [127])

Re claim **19**, it is method drawn to the apparatus claim 1, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **20**, it is method drawn to the apparatus claim 2, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **25**, as applied to claim 19 above, it is method drawn to the apparatus claim 8, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **26**, as applied to claim 19 above, it is method drawn to the apparatus claim 9, and is rejected for the same reason as above because

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implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **27**, as applied to claim 19 above, it is method drawn to the apparatus claim 10, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **30**, as applied to claim 26 above, it is method drawn to the apparatus claim 13, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **33**, as applied to claim 19 above, it is method drawn to the apparatus claim 16, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **36**, it has similar limitations claim 1 above which are met by the reference above and is rejected for the same reason of anticipation as above.

Re claim **37**, as applied to claim 36 above, it has similar limitations claim 2 above which are met by the reference above and is rejected for the same reason of anticipation as above.

Re claim **38**, as applied to claim 36 above, it has similar limitations claim 16 above which are met by the reference above and is rejected for the same reason of anticipation as above.



***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: ***(See MPEP Ch. 2141)***

- a. Determining the scope and contents of the prior art;
  - b. Ascertaining the differences between the prior art and the claims in issue;
  - c. Resolving the level of ordinary skill in the pertinent art; and
  - d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.
7. **Claims 4 – 7, 11, 12 21 – 24, 28, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rune et al. US Pub No. 20010029166 A1 in view of Applicant's Admitted Prior Art (henceforth AAPA).**

The rejection of claim 1 is incorporated herein. Claim 4 depends on claim 1 and only further limitations will be addressed below.

Re claim 4, Rune is silent on the processor including a synchronization module to determine a Time of Day synchronization mode used by the communication unit. AAPA in analogous art, discloses a communication network

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having a plurality of communication units, a communication unit that transmits and receives messages from neighboring units (page 1, lines 9 - 28). AAPA further discloses that determining the a Time of Day synchronization mode used by the communication unit (page 1, lines 13 – 14, selection of the TOD algorithm (mode) is based on a parameter; to select would mean that one has knows their choices (determine a type of mode)). It would therefore have been obvious to a person having ordinary skills in the art, at the time the invention was made, to incorporate the teaching to AAPA into the disclosure of Rune to have a synchronization module to determine the time of day synchronization mode used by the communication unit so as to establish common network time (page 1, line 10).

The rejection of claim 4 is incorporated herein. Claim 5 depends on claim 4 and only further limitations will be addressed below.

Re claim **5**, Rune in view of AAPA discloses that the synchronization module further includes a start up module to join the communication unit to an existing communication network at power up using a user configurable primary Time of Day synchronization mode (AAPA: page 5, lines 2 - 6)

The rejection of claim 5 is incorporated herein. Claim 6 depends on claim 5 and only further limitations will be addressed below.

Re claim **6**, Rune in view of AAPA discloses that the synchronization module further includes a time of day module to change the time of day synchronization mode of the communication unit in response to the communication unit failing to

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join a communication network with neighboring communication unit using a previously selected Time of Day synchronization mode and to join the communication unit to an existing communication network using the changed time of day synchronization mode (AAPA: page 3, lines 23 - 24, AAPA discloses that nodes without timing source search for CS and LNE messages, page 5, lines 9 – 24; page 3, lines 6 – 8)

The rejection of claim 6 is incorporated herein. Claim 7 depends on claim 6 and only further limitations will be addressed below.

Re claim 7, Rune in view of AAPA discloses that the synchronization module further comprises a network start module to start an isolated network with neighboring communication nodes upon failing to join a communication network with previously selected Time of Day synchronization modes. (AAPA: page 5, lines 25 – 25 – 30)

Re claim 11, Rune in view of AAPA discloses that the transmit rate module determines the transmit rate based on a user configurable reference transmit rate value and a percentage of network size parameter for the communication network to which the communication unit belongs (AAPA: page 5, lines 25 - 31; clearly teaches that a node determines the network size, in this case being only one node itself, and determines its transmit rate i.e. accelerated rate within WaitInNetTimer. WaitInNetTimer is interpreted to be user configurable reference transmit rate value since it is disclosed to be predetermined i.e. set in advance)

The rejection of claim 11 is incorporated herein. Claim 12 depends on claim 11 and only further limitations will be addressed below.

Re claim **12**, Rune in view of AAPA discloses that the transmit rate module determines the transmit rate is proportional to the percentage of network size value (AAPA: page 5, lines 25 - 31)

The rejection of claim 19 is incorporated herein. Claims 21, 22 depend on claim 19 and only further limitations will be addressed below.

Re claim **21**, it is method drawn to the apparatus claim 4, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **22**, it is method drawn to the apparatus claim 5, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **23**, as applied to claim 22 above, it is method drawn to the apparatus claim 6, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **24**, as applied to claim 23 above, it is method drawn to the apparatus claim 7, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

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Re claim **28**, as applied to claim 27 above, it is method drawn to the apparatus claim 11, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **29**, as applied to claim 12 above, it is method drawn to the apparatus claim 12, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

**8. Claims 14, 15, 31, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rune et al., US Pub No. 20010029166 A1 in view of Schrader et al., US Pub No. 20050243765 A1.**

The rejection of claim 13 is incorporated herein. Claim 14 depends on claim 13 and only further limitations will be addressed below.

Re claim **14**, Rune discloses the claimed invention, but is silent on the determining of the scan window interval based upon a user configurable reference scan window value and a percentage of network size parameter value for the communication network to which the communication unit belongs. Schrader in analogous art discloses a communication network having a plurality of communication units a communication unit that transmits messages to and receives messages from a neighboring communication network (see abstract, paragraph [91]). Schrader further discloses the known technique of determining

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of the scan window interval based upon a user configurable reference scan window value and a percentage of network size parameter value (paragraphs [62] - [69], see exemplary fig 2, clearly shows time slot MF1 (user configurable reference scan window parameter and percentage of network size, since one time slot is clearly a percent of the total number of users) and scan window interval (Beacon Cycle - Member Frame Interval, which is the period that node with time slot MF1 scans for beacons). It is clear from the exemplary fig that the time slots are user configurable and the beacon cycle is proportional to the network size and also clear that the scanning interval for a given node is determined by the two disclosed parameters). It would therefore have been obvious to a person having ordinary skills in the arts, at the time the invention was made, to incorporate this teaching of Schrader into the disclosure of Rune, having the scan window interval based on a user configurable reference scan window value and a percentage of network size parameter value for the communication network to which the communication unit belongs so as to manage access to the adhoc network (paragraph [4])

The rejection of claim 14 is incorporated herein. Claim 15 depends on claim 14 and only further limitations will be addressed below.

Re claim **15**, Rune in view of Schrader discloses that the scan window interval is inversely proportioned to the percentage of network size parameter (see fig 2, it is clear that the more time slots assigned the user, the lower the scan window interval).

Re claim **31**, as applied to claim 30 above, it is method drawn to the apparatus claim 14, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **32**, it is method drawn to the apparatus claim 15, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

**9. Claims 17, 18, 34, 35, 39, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rune et al., US Pub No. 20010029166 A1 in view of Fonseca et al., US Pub No. 20040033778 A1.**

The rejection of claim 16 is incorporated herein. Claim 17 depends on claim 16 and only further limitations will be addressed below.

Re claim **17**, Rune discloses the claimed invention including traffic situation in the other network is used when determining which network to merge with (paragraph [127]), but is silent on the traffic situation a comparison of a number of active communication units in the neighboring communication network with a number of total communication units in the neighboring communication network. Fonseca in analogous art teaches the advantages of having more active users in a network (paragraph [45] – [46], where Fonseca teaches that as the percentage of active users increases there is reduction in average power consumption). It is clear from Fonseca that a network with more active percentage active users would be more attractive to a potential merging unit or network than one with

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less. It would therefore have been obvious to a person having ordinary skills in the art, at the time of the invention, to incorporate this teaching of Fonseca into the disclosure of Rune, to have the merge priority of a neighboring communication network based upon a comparison of the number of active communication units in the neighboring communication network with a number of total communication units in the neighboring communication network so as to reduce average current consumption (paragraph [45]).

The rejection of claim 17 is incorporated herein. Claim 18 depends on claim 17 and only further limitations will be addressed below.

Re claim **18**, Rune in view of Fonseca discloses that the merge priority is proportional to a quotient of the number of active communication units and the number of total communication units for each respective neighboring network (Rune: paragraph [46], result increase when the percentage of active users is increased).

Re claim **34**, as applied to claim 33 above, it is method drawn to the apparatus claim 17, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.

Re claim **35**, as applied to claim 34 above, it is method drawn to the apparatus claim 18, and is rejected for the same reason as above because implementing the apparatus would necessitate carrying out the method as claimed.



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Re claim **39**, as applied to claim 38 above, it has similar limitations claim 17 above which are met by the reference above and is rejected for the same reason as above.

Re claim **40**, as applied to claim 39 above, it has similar limitations claim 18 above which are met by the reference above and is rejected for the same reason of anticipation as above.

***Contact Information***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OPIRIBO GEORGEWILL whose telephone number is (571)270-7926. The examiner can normally be reached on Monday through Thursday, 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lewis G. West can be reached on (571)272-7859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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